

Mr. Waller/jm

XX-111

APR 11/11

VERIFIED ORIGINAL FILE COPY

CLASSIFICATION CHANGED TO
TOP SECRET//SI//NF//
EXCLUDED FROM AUTOMATIC
DOWNGRADING AND
DECLASSIFICATION
APR 1966

CONTACT NO. VANNUSSING AFB CALIF
AF SPACE SYSTEMS CENTER LOS ANGELES CALIF
CONTACT NO. AERIAL LAB. BOSTON VALE CALIF
LOCKHEED MODEL 10 SPACE CONSTANT BOSTON VALE CALIF
LOCKHEED MODEL 10 SPACE CONSTANT VANNUSSING AFB
CALIF. COURIER/ ZEN
BUTLER AIRCRAFT COMPANY VANNUSSING AFB CALIF
/COURIER/ ZEN
INFO: 1 STRAT ARMY VANNUSSING AFB CALIF /COURIER/ ZEN
CONTACT NO. VANNUSSING AFB CALIF /COURIER/ ZEN
CONTACT NO. PAYTON AFB FLORIDA

DOWNGRADED AT 3 YEAR INTERVALS.
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

SECRET FROM VNUSS - 1-4-56-5
100A FOR AERIAL LAB. CALIF. TR. FOR COL. ROBERT B. BROWN LMSC/
BOSTON VALE FOR TUSCALOOSA, ALA. L. DILLON/ BOSTON VALE LMSC/VALE
FOR DEPT 44-46 BOSTON VALE FOR MR. NECKMAN: INFO CLM
1 STRAT AD FOR COMMANDER FIRST AND DOCSA BOSTON VALE TR. FOR

Cy 4974
2485
AUG 61

OFFICE SYMBOL	INITIALS				
NAME (SIGNATURE)					
DATE	CLASSIFIED BY	REVIEW DATE			

AEBMD Form 118-75
1 Nov 59

COORDINATION SHEET

LIEUTENANT J. J. COLMAN, USAF

Replaces AEBMD Form 11, Jun 59

HONESTY AND FAIRNESS ARE CALLED
 YOUR NAME. FREEDOM/EMANCIPATION IS FOR COLONIALS.

SECRET CAN FLARE REPORT ON LAUNCHING OF DISCOVERY

100-443887-100

DISCOVERER EVIDENCE CONTAINER OF TYPE ROCKET NO. 207 AND
AGORA'S SERIAL STAGE NO. 1111 WAS LAUNCHED FROM COMPLEX
75-1, BMD-1, AT VTRAL FORT ON 3 AUGUST 1961. THE PRIMARY
PURPOSE WAS TO PLACE THE DISCOVERER SATELLITE WITHIN
EARTH'S MAGNETIC FIELD. THIS WAS NOT ACCOMPLISHED. LOSS
OF AGORA'S GUIDANCE SYSTEM AT APPROXIMATELY 7 HRS 40
MINUTES CAUSED LOSS OF VEHICLE POSITION CONTROL AND CON-
SEQUENT LOSS OF VEHICLE ATTITUDE CONTROL. THE SEVERE
VEHICLE ATTITUDE CHANGES AFTER LOSS OF CONTROL APPARENTLY
CAUSED FURTHER ENGINE SHUTDOWN. THE VEHICLE DID NOT
ACHIEVE EARTH ORBITAL VELOCITY.

1. PRELIMINARY STATEMENT DENOTES THAT THE LATTERS TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS /REPRESENT DETAILED TEST OBJECTIVES, LINE 14-14, SECTION I/.

A. DISCOVERER BOOSTER - OBJECTIVE ACHIEVED.

1. VEHICLE POSITION WAS WITHIN 5 NAUTICAL MILES,
FAIRFAX PATH ANGLE WAS WITHIN 4 DEGREES, AND VELOCITY WAS
WITHIN 500 FPM OF THE NOMINAL VALUE AT POWER RISE

GROUND GUIDANCE SYSTEMS ARE CALLED
GROUND GUIDANCE SYSTEMS AND EVENT COMMANDS APPEAR
TO HAVE BEEN SATISFACTORILY TRANSMITTED BY THE GROUND
GUIDANCE SYSTEM AND VEHICLE RESPONSE TO THE COMMANDS
APPEARS TO HAVE BEEN PROPER. RECCO OCCURRED AT T PLUS
14.1 SECONDS AFTER RELEASE FROM GROUND GUIDANCE. SEPARATION
OF THE AIRCRAFT FROM GROUND GUIDANCE WAS 9.1 SECONDS AFTER
RELEASE. THE INITIAL SEPARATION FROM THE DOCKING
WAS INITIATED AT T PLUS 14.6 SECONDS BY DISCRETE COMMAND.

NO AGONIC OSCILLATIONS WERE APPARENT IN ACCELEROMETER
DATA INTERMITTENTLY FROM KIFFOFF TO T PLUS 122 SECONDS
AND CONTINUOUSLY FROM T PLUS 122 SECONDS TO T PLUS 131
SECONDS. MAXIMUM PEAK-TO-PEAK AMPLITUDE OF THE OSCILLA-
TIONS NOTED IN AGONIA LONGITUDINAL ACCELEROMETER RECORDS
WAS APPROXIMATELY 1 G.

B. AGONIA AIRFRAME AND ADAPTER - OBJECTIVE PARTIALLY
ACHIEVED.

NO EVIDENCE OF STRUCTURAL PROBLEMS IN THE AGONIA
AIRFRAME OR ADAPTER HAS BEEN NOTED. THE ACCELERATION
LOADS AFTER THE LOSS OF ATTITUDE CONTROL ARE OF
SUFFICIENT MAGNITUDE THAT AIRFRAME DAMAGE IS POSSIBLE.

C. AGONIA PROXIMITY SYSTEMS - OBJECTIVE PARTIALLY ACHIEVED.

THE ENGINE SHUTDOWN OCCURRED THE INSTANT NECESSARY
FOR ORBITAL STATION SEPARATION. AGRIS ENGINE SHUTDOWN
OCCURRED IN A NORMAL MANNER AT T PLUS 21.2 SECONDS.
THE ENGINE SHUTDOWN APPEARS TO BE NORMAL LOCAL SHUTDOWN
AT T PLUS 21.2 SECONDS. THE PREMATURE SHUTDOWN WAS
APPARENTLY CAUSED BY THE VEHICLE ATTITUDE CHANGING
AFTER LOSS OF ENGINE POSITION CONTROL. AS A RESULT OF THE
LOSS OF ENGINE THROTTLE VECTOR CONTROL AND THE PREMATURE
ENGINE SHUTDOWN, THE EXCESSIVE VELOCITY GAIN DURING
ENGINE OPERATION WAS ONLY ABOUT 12,000 FPM. THE VEHICLE
TOTAL VELOCITY AT ENGINE SHUTDOWN WAS CONSEQUENTLY NOT
SUFFICIENT FOR ORBIT.

D. AGRIS ELECTRICAL POWER SYSTEM - OBJECTIVE PARTIALLY
ACHIEVED.

NO EVIDENCE OF AGRIS ELECTRICAL POWER SYSTEM
PROBLEMS HAS BEEN NOTED.

E. AGRIS GUIDANCE AND FLIGHT CONTROL SYSTEM - OBJECTIVE
PARTIALLY ACHIEVED.

(1) THE AGRIS GUIDANCE SYSTEM PROPERLY RESPONDED
TO A 1.0 SECOND TURN TO-PER CORRECTION AND A 1.44
VELOCITY TO BE GAINED CORRECTION COMMANDS BY GROUND

VEHICLE ATTITUDE WAS CONTROLLED SATISFACTORILY

THROUGH THE HYDRAULIC POWER SYSTEM. THE ORBITAL BOOST PHASE
WAS COMPLETED WITH THE HYDRAULIC PRESSURE MEAN
TO EXCEED THE DESIGN SYSTEM VALUE BY 100 PSI.

(2) THE LOSS OF HYDRAULIC POWER PRECLUDED THE
THREE-AXIS CONTROL AND VEHICLE ATTITUDE CONTROL.
CONTROL CAN EXTENSION WAS NEARLY ZERO TO THE LOSS OF
HYDRAULIC PRESSURE BUT INCREASED RAPIDLY THEREAFTER AS
THE GAS SYSTEMS ATTEMPTED TO MAINTAIN VEHICLE ROLL
STABILITY. OPERATION OF THE D-TIMER IN CONTROLLING THE
TIME AND SEQUENCE OF PROGRAMMED EVENTS APPEARS TO HAVE
BEEN SATISFACTORY.

F. AERIAL TRACKING SYSTEM - OBJECTIVE
PARTIALLY ACHIEVED.

THE VANDERBILT TRACKING SYSTEM TRACKED THE
RADAR BEAM FROM LIFTOFF UNTIL T PLUS 405 SECONDS AND
THE ACQUISITION BEAM FROM LIFTOFF TO T PLUS 112 SECONDS.

G. GROUND SUPPORT EQUIPMENT - OBJECTIVE ACHIEVED.
NO SIGNIFICANT PROBLEMS WERE ENCOUNTERED WITH THE
GROUND SUPPORT EQUIPMENT DURING THE COUNTDOWN.

H. RECOVERY SYSTEM FACILITIES - OBJECTIVE ACHIEVED.

VWD

6565 TEST WG VANDENBERG AFB CALIF

THE AGENA TELEMETRY SIGNAL WAS RECEIVED AND
RECORDED BY THE VANDENBERG TRACKING STATION FROM LIFT-
OFF TO T PLUS 52.2 SECONDS. FLIGHT DATA RECORDS ARE

SATISFACTORY EXCEPT FOR THE PERIOD FROM T PLUS 149.3
SECONDS TO T PLUS 198.5 SECONDS WHEN THE RECORDS ARE

NOISY APPARENTLY BECAUSE OF A GROUND STATION PROBLEM.

THE VTS VEHICULT PROVIDED SATISFACTORY ANALOG AND DIGITAL
DATA RECORDS DURING THE ACTIVE TRACKING PERIOD. STATION
COMMUNICATIONS DURING THE OPERATION WERE ADEQUATE.

3. PRE-LAUNCH COUNTDOWN

TWO HOLDS WERE IMPOSED DURING THE COUNTDOWN. HOLD
NO. 1 WAS CALLED AT T MINUS 60 TO PERMIT TIME FOR AN
EVALUATION OF PAYLOAD DATA. DURATION OF THE HOLD WAS
10 MINUTES. HOLD NO. 2 WAS CALLED AT T MINUS 5 MINUTES
TO COMPLETE THE TOPPING OF THE THOR FUEL TANK. THIS
SECOND HOLD LASTED APPROXIMATELY 1 MINUTE.

4. PAD DAMAGE

PAD DAMAGE WAS LIGHT AND NORMAL RECOVERY TIME IS
EXPECTED.

SCP 4.

7W2D